power of a telescope. Only those of the best definition will show it well.

As a wide pair, this star has been known since the time of Sir William Herschel (H N. 43), and is Σ 2804 of the Dorpat Catalogue. My measures of the distant star were generally made when the conditions were too unfavourable to observe the close pair.

A, B and C.

304°·0	11″·55	1880·553
302·3	·90	·613
301·7	·85	·627
304·6	·75	·695

There is some change in angle and distance, due to the proper motion of the large star, as will appear from the following mean results:—

Struve	308°·5	11″·01	1831·56
Dembowski	303·9	11·60	1864·84
Burnham	303·1	11·76	1880·60

The physical relation of the close pair is manifest from the common proper motion of the components, as otherwise it would have been a very easy pair at the time of Struve's measures of the distant star, and certainly would have been detected by him.

Chicago,
1880, Oct. 13.

Observations of Ceraski's Variable Star in Cepheus.

By George Knott, Esq.

Having obtained observations of two recent minima of Ceraski's interesting short-period variable star in *Cepheus*, B.D.+81° 25, I beg to present them to the Society.

Warned by Lord Lindsay's Dun Echt Circular No. 10, which reached me on the morning of October 23, I was prepared to watch for the minimum predicted for the same night, which was fortunately fairly clear, with the exception of a cloudy interval which prevented all observation between $9^h\ 5^m$ and $10^h\ 25^m$. The night of October 28, the date of the next observable minimum, was hopelessly cloudy, and no observations of any kind were possible; but November 2 was fine, and the minimum was observed under favourable circumstances.

The magnitude of the variable at the several times was determined partly by gauging (by the method of limiting apertures),

and partly by comparing it with neighbouring stars, the magnitudes of which are gauged. The magnitude scale is practically that of the *Durchmusterung*, the assumed light-ratio being 2·512. The dates of observation are in Greenwich Mean Time :—

Minimum of October 23.

Time of Observation.	Star's observed Magnitude.	Time of Observation.	Star's observed Magnitude.
h m	m	h m	m
9 5	8·1	12 44	8·8
10 25	9·0	13 7	8·6
10 47	9·05	13 16	8·5
11 7	9·1	13 50	8·1
11 39	9·0	14 0	8·0
12 30	8·95		

Minimum of November 2.

Time of Observation.	Star's observed Magnitude.	Time of Observation.	Star's observed Magnitude.
h m	m	h m	m
6 19	7·3	11 0	9·05
6 55	7·3	11 40	9·1
7 10	7·3	12 10	9·05
7 52	7·4	12 20	8·8
8 0	7·4	12 30	8·6
8 18	8·1	12 47	8·4
8 43	8·4	13 0	8·1
9 35	8·9	13 10	8·0
9 45	9·0	13 55	7·4
10 30	9·1	14 5	7·3

Projecting the observations on cross-ruled paper, and reading off from the light curve, I inferred October 23 $11^h\ 10^m$ as the date of the first minimum. It is quite possible, however, that the slight changes about minimum may be more apparent than real, and that the epoch of mean phase should be taken about 17^m later. The minimum of November 2 appears to have occurred at about $11^h\ 0^m$.

When at its full brightness, the colour of the Variable is white, or bluish white, very similar to that of its neighbour B.D.+81° 30. At the minimum it is ruddy or ruddy-orange. When observing the star on October 23 I noticed a small bluish companion, of about $11\frac{1}{2}$ mag. P=60° D=10″, and suspected a second, at a slightly greater distance, with angle of position 330°. When the Variable was at minimum on November 2, both these small companion stars were well seen, and judged to be of about the $11\frac{1}{2}$ and 13 magnitudes respectively.

I have gauged the magnitudes of several of the neighbouring